

**AMENDMENTS TO THE CLAIMS:**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A catalyst for deep desulfurization of a mineral oil corresponding to kerosene, comprising a nickel component ~~of~~ containing nickel and nickel oxide, zinc oxide, and aluminum oxide,

wherein the content of the nickel component in terms of nickel oxide is from 5 to 25% by weight, and the content of the zinc oxide is from 30 to 70% by weight, each based on the total of ~~the content of the nickel component in terms of nickel oxide, the content of the zinc oxide, and the content of the aluminum oxide,~~

the nitrogen monoxide adsorption of the catalyst at  $1 \text{ kg/cm}^2$  ( $9.80 \times 10^{-2} \text{ MPa}$ ) and  $40^\circ\text{C}$  after hydrogen reduction at  $360^\circ\text{C}$  is  $4.0 \text{ ml/g}$  or more in terms of ~~standard-state~~ standard temperature and pressure, and

the catalyst has a specific surface area of from 10 to  $300 \text{ m}^2/\text{g}$ .

2. (original): The deep desulfurization catalyst according to claim 1, which is obtained by carrying out an activation treatment in the presence of hydrogen at a temperature of from  $200$  to  $400^\circ\text{C}$  and a pressure of from  $1$  to  $20 \text{ kg/cm}^2$  ( $9.80 \times 10^{-2}$  to  $1.96 \text{ MPa}$ ).

3. (withdrawn): A process for producing the deep desulfurization catalyst according to claim 1, comprising mixing a basic substance with each of an aqueous solution of a water-

soluble nickel metal salt and an aqueous solution of a water-soluble zinc metal salt or with a mixed aqueous solution thereof to thereby form precipitates separately or simultaneously, and mixing the precipitates with aluminum oxide or an aluminum oxide precursor, followed by molding and burning.

4. (withdrawn): A method of deep desulfurization, comprising bringing a mineral oil corresponding to kerosene into contact with hydrogen in the presence of the deep desulfurization catalyst according to claim 1 or 2 at a temperature of from 200 to 400°C, a pressure of from 1 to 20 kg/cm<sup>2</sup> ( $9.80 \times 10^{-2}$  to 1.96 MPa), and an LHSV of from 0.1 to 5.

5. (new): The desulfurization catalyst according to claim 1, wherein the content of the zinc oxide is from 40 to 70% by weight.

6. (new): The desulfurization catalyst according to claim 1, wherein the content of the zinc oxide is from 50 to 70% by weight.